

courtesy to the Examiner. It is respectfully submitted that the above-referenced Information Disclosure Statement was properly filed on December 3, 1999, and should be accorded its filing date for the purposes of consideration and compliance with 37 CFR 1.97 and 1.98. The Applicants respectfully request that the Examiner provide an initialed copy of the Form PTO-1449 evidencing consideration of JP '967.

Also, the Applicants have not received acknowledgment of the Information Disclosure Statements filed on August 26, 2003, and April 5, 2004. The Applicants respectfully request that the Examiner provide an initialed copy of the Form PTO-1449 evidencing consideration of these Information Disclosure Statements.

Claims 9-16, 21-24, 33-36, 50-52, 54 and 57-97 are pending in the present application, of which claims 9, 13, 21, 33, 57-59, 66, 69, 73, 77, 81, 85, 39 and 93 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 1 of the Official Action rejects claims 9-16, 21-24, 33-36, 50-52, 54 and 57-97 as obvious based on the combination of U.S. Patent No. 5,227,900 to Inaba et al., JP 61-141174 to Takeshita et al., and U.S. Patent No. 5,055,899 to Wakai et al. The Applicants respectfully traverse the rejection because the Official Action has not made a *prima facie* case of obviousness.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in

the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

As noted in MPEP § 2142, the initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). It is respectfully submitted that Inaba, Takeshita and Wakai fail to expressly or impliedly suggest all the features of the independent claims of the present invention. It is further submitted that the Examiner has not presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

There is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Inaba, Takeshita and Wakai or to combine reference teachings to achieve the claimed invention.

As noted previously in the *Appeal Brief* filed June 7, 2004, although Inaba teaches a pixel electrode 22, Inaba does not teach or suggest that the pixel electrode 22 be formed on a leveled upper surface, or that the pixel electrode is electrically connected to the TFT/semiconductor element 18, 21, 26, 32 and 34 through an opening formed in the organic resin/leveling film. Also as noted previously, just because Takeshita states that TFTs for a solid state image pickup device are usually formed by a method which

includes a polyimide resin 106, this certainly does not in and of itself teach how or why a polyimide resin 106 would be incorporated into the Inaba liquid crystal display device. Specifically, the mere teaching of a polyimide resin 106 in Takeshita does not teach one of ordinary skill in the art at the time of the invention to modify the Inaba device by separating pixel electrode 22 from drain 21, inserting the polyimide resin 106 of Takeshita between the TFT 18, 21, 26, 32 and 34 and the pixel electrode 22 which covers the TFT 18, 21, 26, 32 and 34, to form an opening in the organic resin/leveling film, and connecting the pixel electrode 22 to the TFT 18, 21, 26, 32 and 34 through the opening.

It appears that the Official Action continues to rely on arguments from the Final Official Action mailed June 5, 2001 (page 2, Paper No. 09022004). The Applicants continue to note that the statement in Takeshita that "usually, poly-silicon TFTs are formed by the above mentioned method" does not provide one of ordinary skill in the art with sufficient motivation to modify the fully functional Inaba device, particularly absent any disclosure or suggestion of any advantage to be achieved by such modification. It is respectfully submitted that the broad assertion that TFTs are "usually" formed in this fashion completely fails to provide a convincing line of reasoning as to why one of ordinary skill in the art would have been motivated to modify Inaba as proposed.

Further, Inaba was published in 1993 and Takeshita was published in 1986. Clearly, Inaba et al. were aware of the teachings of Takeshita et al. in 1993. If it were important to Inaba et al. to have a leveling layer in a liquid crystal device, particularly one formed between a TFT and a pixel electrode, then why is Inaba silent as to the importance of such feature? The Applicants respectfully submit that no such teaching is provided in Inaba, because it was not obvious at the time of the invention that it would have been desirable to provide a liquid crystal panel with a leveling layer formed between a TFT and a pixel electrode of the liquid crystal panel.

Wakai does not cure the deficiencies in the alleged motivation to combine Inaba and Takeshita. The Official Action asserts that Wakai allegedly teaches forming an insulation layer between a pixel electrode and a drain electrode, where the pixel

electrode is electrically connected to the drain electrode through a contact hole of the insulation layer (page 2, Paper No. 09022004). However, Wakai fails to teach or suggest leveling a surface of the insulation film 108 on which a pixel electrode is formed. It is unclear how the teaching of an insulation film in Wakai cures the above-referenced deficiencies in Inaba and Takeshita.

Specifically, Inaba, Takeshita and Wakai, either alone or in combination, do not teach or suggest why one of ordinary skill in the art would have been motivated to modify the Inaba device by separating pixel electrode 22 from drain 21, inserting the polyimide resin 106 of Takeshita or the insulating layer of Wakai between the TFT 18, 21, 26, 32 and 34 and the pixel electrode 22 which covers the TFT 18, 21, 26, 32 and 34, to form an opening in the organic resin/leveling film, and connecting the pixel electrode 22 to the TFT 18, 21, 26, 32 and 34 through the opening.

Further, Inaba, Takeshita and Wakai fail to appreciate the problem caused by the narrow cell gap of the ferroelectric liquid crystal (FLC) or anti-ferroelectric liquid crystal (AFLC) display device, and the materiality of the flatness of the inside surface of the substrate in the FLC/AFLC display. The Official Action previously responded to these arguments only by stating that limitations from the specification are not read into the claims (page 2, Paper No. 26). This misses the point. As noted previously, the organic resin film or leveling film of the independent claims of the present invention is formed over the first substrate in order to provide a leveled upper surface over the first substrate. Inaba does not discuss the problem caused by the narrow cell gap, and the materiality of the flatness of the inside surface of the substrate in the FLC/AFLC display, and, as noted above, there is no motivation in Inaba, Takeshita or Wakai to modify the Inaba device to include such a feature. Reconsideration of the rejection of the independent claims is respectfully requested.

In addition, Inaba, Takeshita or Wakai, either alone or in combination, do not teach or suggest providing a ferroelectric liquid crystal material or an antiferroelectric liquid crystal material on a pixel electrode formed on a leveling surface. The Official

Action asserts that “the use of antiferroelectric liquid crystal would have been at least an obvious variation ... to the use [of] ferroelectric liquid crystal” (page 2, Paper No. 09022004). It is unclear how allegedly “similar advantages” (Id.) between antiferroelectric and ferroelectric liquid crystal displays would somehow teach or suggest that it would have been obvious to provide a ferroelectric liquid crystal material or an antiferroelectric liquid crystal material on a pixel electrode formed on a leveling surface. Specifically, it is unclear how polyimide resin 106 of the solid state image pickup device of Takeshita has anything to do with a ferroelectric liquid crystal material of Inaba or an allegedly obvious antiferroelectric liquid crystal material variation. Therefore, the Applicants respectfully submit that there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Inaba, Takeshita and Wakai or to combine reference teachings to achieve the claimed invention.


Still further, it should be noted that the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680 (Fed. Cir. 1990). In other words, simply because the references can be combined does not mean that they should be combined. Thus, simply because one could combine and modify the teachings of Inaba, Takeshita and Wakai, does not mean one of skill in the art would do so absent some suggestion of the desirability of doing so.

In the present application, it is respectfully submitted that the prior art of record, either alone or in combination, does not expressly or impliedly suggest the claimed invention and the Official Action has not presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

For the reasons stated above, the Official Action has not formed a proper *prima facie* case of obviousness. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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